

CLAIMS

1. A packet routing apparatus for establishing a route for packet transmission and transmitting packets from a source apparatus to a destination apparatus by radio
5 signals using a plurality of apparatuses, the packet routing apparatus comprising:

a reception section that receives a radio signal containing packets and detects that communication with a communication apparatus directly transmitting the
10 packets using radio signals, is disconnected;

a control section that determines whether the packet routing apparatus is located on a side of a destination wireless terminal apparatus or a side of a source wireless terminal apparatus of the packets; and

15 a transmission section that broadcasts a request signal for route repair to a destination communication apparatus of the packets when communication with the communication apparatus directly transmitting the packets using radio signals is determined to be
20 disconnected and the packet routing apparatus is determined to be located on the side of the source wireless terminal apparatus.

2. The packet routing apparatus according to claim 1,
25 wherein:

the reception section receives a radio signal containing the request signal for route repair;

the control section determines whether or not the request signal for route repair is for repairing a route to the packet routing apparatus; and

when the request signal for route repair is for
5 repairing the route to the packet routing apparatus, the transmission section broadcasts a request signal for route reestablishment to a source of the packets.

3. The packet routing apparatus according to claim 1,
10 further comprising a route cache section that stores the communication apparatus directly transmitting the packets using radio signals as a relay candidate,

wherein, when communication with the communication apparatus directly transmitting the packets using radio
15 signals is disconnected, the control section deletes a communication apparatus with which communication of the packet routing apparatus is disconnected from relay candidates in the route cache section, and, when the destination apparatus of the packets to relay is not stored
20 in the route cache section, the control section determines that the routing apparatus is located on the side of the source wireless terminal apparatus.

4. A packet routing method in a system where packets
25 are transmitted to a destination wireless terminal via a plurality of wireless terminal apparatuses, wherein:
a relay wireless terminal apparatus detects that

communication with a wireless terminal apparatus directly transmitting packets using radio signals is disconnected;

the wireless terminal apparatus detecting that communication is disconnected determines whether the
5 wireless terminal apparatus is located on a side of a destination wireless terminal apparatus or a side of a source wireless terminal apparatus of the packets;

the wireless terminal apparatus determining that the wireless terminal apparatus is located on the side
10 of the source wireless terminal apparatus broadcasts a request signal for route repair to the destination wireless terminal apparatus of the packets; and

when receiving the request signal for route repair, the destination wireless terminal apparatus of the
15 packets broadcasts a request for route reestablishment to the source wireless terminal apparatus of the packets.